

**ROOTY HILL REGIONAL DISTRIBUTION CENTRE  
MONTHLY ENVIRONMENTAL MONITORING REPORT**

<b>Aspect</b>	Air Quality, Construction Noise and Meteorology
<b>Date</b>	July 2013

**SUMMARY**

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<b>Monitoring period</b>	1 July to 31 July 2013
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<b>Parameters monitored in period</b>	Dust (PM <sub>10</sub> ) Dust (Depositional) Meteorology Construction Noise
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<b>Exceedances of assessment criteria</b>	None
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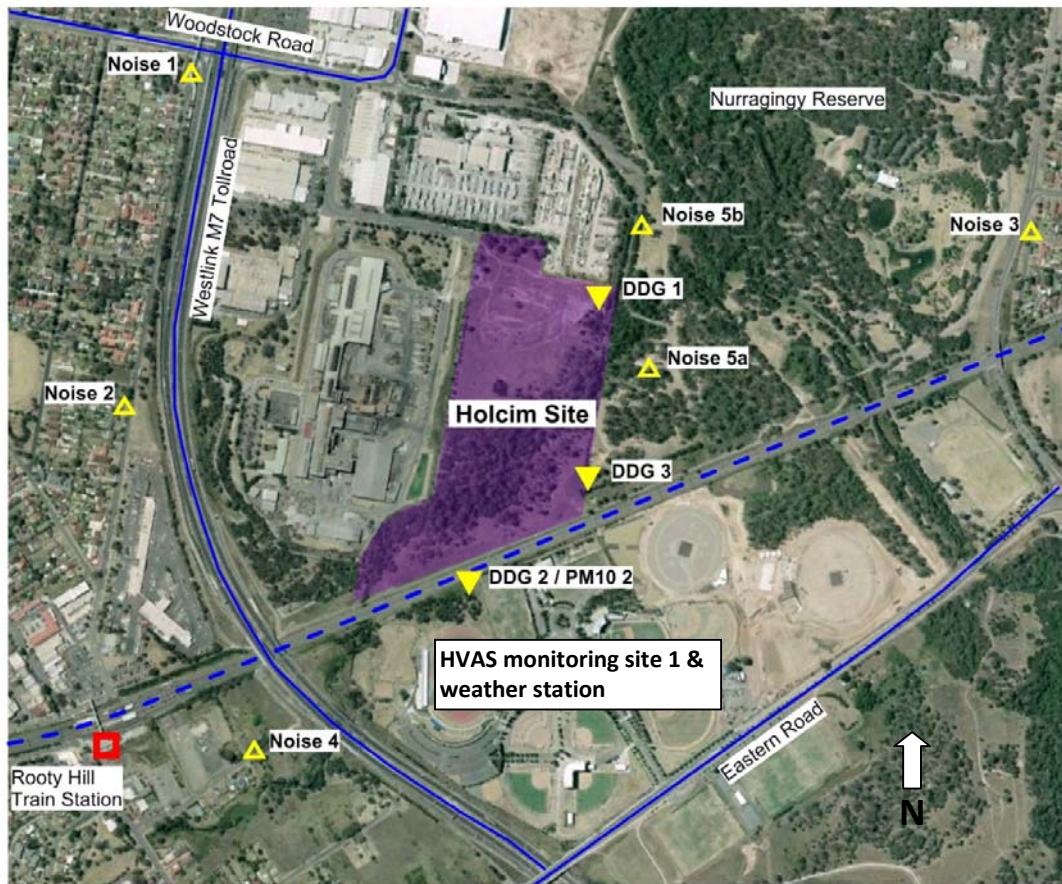
<b>Action required</b>	None
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**1. Monitoring Locations**

The monitoring locations at the Rooty Hill Regional Distribution Centre (RDC) for air quality, construction noise and meteorology are shown in **Figure 1** and consist of:

- Dust monitoring (PM<sub>10</sub>): Olympic Park
- Dust monitoring (Depositional) Locations 1 – 3
- Noise monitoring: Locations 2 – 5
- Meteorology: Olympic Park



■ Figure 1 Monitoring locations

## 2. Monitoring Methodology

### Dust

Air quality (dust) monitoring was undertaken using an Ecotech High Volume Air Sampler (HVAS) 3000 with a Particulate Matter - 10µm (PM<sub>10</sub>) sampling head. The HVAS was operated on one-day-in-six in accordance with *AS/NZS 3580.9.6:2003 Methods for sampling and analysis of ambient air, Method 9.6: Determination of suspended particulate matter (PM10) – High volume sampler with size selective inlet - Gravimetric method.*

Calibration of the unit is checked on a monthly basis, in accordance with operating instructions for the unit and *AS/NZS 3580.9.6:2003.*

Depositional dust was monitored in accordance with *AS/NZS 3580.10.1:2003 Methods for sampling and analysis of ambient air Method 10.1: Determination of particulate matter – Deposited matter – Gravimetric method.*

## Noise

Construction noise was monitored for 15 minute attended periods in accordance with the requirements set out in the EPA (2000) Industrial Noise Policy and the DECC (2009) Interim Construction Noise Guidelines. Monitoring was carried out using a Brüel and Kjær Type 1 2260 Sound Level Meter by appropriately qualified personnel. Calibration of the unit was checked before and after each monitoring period, and the drift was below 0.5dB.

## Meteorology

Meteorological conditions were monitored using a Davis Vantage Pro2 Plus monitoring unit. This unit was positioned in accordance with AS2923-1987 *Ambient air – Guide for measurement of horizontal wind for air quality applications*.

The Davis Vantage Pro2 plus meteorological station does not satisfy the accuracy requirements of AS 3580.14-2011 for wind speed and direction measurements. However, no monitoring standards are specified in the Project Approval and the accuracy of the proposed unit is considered sufficient for the purposes of construction impact management.

The integrity of the meteorological monitoring station is checked every six days, and calibration of the unit is confirmed every 4 weeks.

## 3. Monitoring Guidelines

### Dust

Air quality (dust) criteria within the Project Conditions of Approval, specifically Statement of Commitment 4.1 and the Construction Dust Management Plan mirror those in the NSW EPA document *Approved methods for the modelling and assessment of air pollutants in New South Wales* (DEC 2005). The air quality assessment criteria are outlined below, which apply cumulatively (that is, due to all sources of emissions and not just the contribution from the project).

Pollutant	Averaging period	Concentration
PM <sub>10</sub>	24 hours	50ug/m <sup>3</sup>
	Annual	30ug/m <sup>3</sup>
TSP	Annual	90ug/m <sup>3</sup>
Deposited dust	Annual	4 g/m <sup>2</sup> /month*

\* Depositional dust criteria contained in the NSW EPA methods specify a maximum contribution of 2g/m<sup>2</sup>/month, up to a maximum total depositional dust level of 4g/m<sup>2</sup>/month. This criteria assumes a typical existing load of 2g/m<sup>2</sup>/month, prior to the start of construction activities.

TSP will not be directly monitored, and instead will be calculated by application of a conversion factor (PM<sub>10</sub> x 2.5 = TSP), in accordance with the Rooty Hill RDC Operational Environmental Monitoring Plan.

**Noise**

Noise criteria are contained within Table 1 of the Developmental Approval Consent Conditions (Project Application No 05-0051), and are as follows:

*“The proponent shall design, construct, operate and maintain the project to ensure that the noise contributions from the project to the background acoustic environment do not exceed...”:*

Location	Morning Shoulder (6am to 7am Mon to Sat and 6am to 8am Sun and Pub Hol)	Day (7am to 6pm Mon to Sat and 8am to 6pm Sun and Pub Hol)	Evening (6pm to 10pm all days)	Night (10pm to 7am Mon to Sat and 10pm to 8am Sun)	
	L <sub>Aeq(15min)</sub> dB(A)	L <sub>Aeq(15min)</sub> dB(A)	L <sub>Aeq(15min)</sub> dB(A)	L <sub>Aeq(15min)</sub> dB(A)	L <sub>A1(1min)</sub> dB(A)
Station St residences	39	44	44	39	53
Crawford Rd residences	40	40	39	39	53
Mavis St residences	35	35	35	35	53
Nurragingy reserve	When the reserve is in use L <sub>Aeq</sub> 50dB(A)				
Colebee Centre	When the centre is in use – L <sub>Aeq</sub> 50dB(A)				
Blacktown Olympic Park (active recreation areas)	When active recreation areas of the Park are in use – L <sub>Aeq</sub> 55dB(A)				

**Meteorology**

The Statement of Commitments note the following local meteorological conditions are to be recorded:

- Daily air temperature
- Solar radiation
- Daily rainfall
- Daylight hours
- Daily evaporation
- Continuous wind speed and direction

**4. Monitoring results**

**Dust (PM10 / TSP)**

Date	PM <sub>10</sub> (ug/m <sup>3</sup> )		TSP	
	Measured result	Criteria	Calculated result	Criteria
3/07/2013	21.5	50	53.8	NA
9/07/2013	10.6	50	26.5	NA
15/07/2013	24.0	50	60.0	NA
21/07/2013	29.0	50	72.5	NA
27/07/2013	23.0	50	57.5	NA
Annual average (to date)	<b>21.3</b>	30	50.0	90

No exceedances of PM10 or TSP dust criteria were recorded during the month of July 2013.

### Dust (Depositional)

Total Insoluble Matter (g/m <sup>2</sup> /month)				Goal (annual average)
Location	1	2	3	
31/06/2013 – 31/07/2013	1.8	1.0	2.6	N/A
Annual average (February 2013 to current)*	1.6	1.7	2.0	4 g /m <sup>2</sup> /month

\* Note: February results invalid due to excessive rainfall

No exceedances of depositional dust criteria were recorded during the month of July 2013.

### Noise

At the time of noise monitoring, small scale earthworks were being carried out in the south western corner of the site. No other noisy works were underway.

The results of attended construction noise monitoring are presented below:

Location	Start	Construction contribution L <sub>Aeq</sub>	L <sub>Aeq</sub>	L <sub>A10</sub>	L <sub>A90</sub>	Project criteria L <sub>Aeq(15min)</sub> dB(A)	Notes
1	12:10	Inaudible	56	58	54	44	Holcim inaudible, M7 (constant 50-60), Woodstock avenue traffic (freq 50-60), wind (40-60)
2	12:30	Inaudible	57	59	54	44	Holcim inaudible, M7 (constant 50-60), wind (40-60), local traffic (60)
3	10:30	Inaudible	61	64	54	40	Holcim inaudible, Knox Rd traffic (constant 50-75), sports carnival at Knox Road oval
4	12:55	Inaudible	54	58	52	35	Holcim inaudible, M7 (constant 45-55), wind (40-50), train (70)
5a	11:15	Inaudible	58	57	48	50	Holcim inaudible, occasional train (75), wind (35-55), local traffic (40-50), birds (50-55)
5b	11:35	Inaudible	53	54	47	50	Holcim inaudible, Hume concrete (hammering (60)), aeroplanes (55), birds (45-60), wind (45)

There were no exceedances of noise criteria recorded during the month of July 2013.

### Meteorology

A wind rose showing the proportion of direction and strength of winds throughout the reporting period is below. A complete data set, including, humidity, temperature and rainfall is provided in software form.

The results of the wind rose show that areas to the north west of the site were the most likely to be impacted by construction generated dust. Given that landuse in this area is dominated by industrial sites, the likelihood of off-site impacts is low.

It is noted that BoM data show several periods of heavy rainfall during July, which are not reflected in these results. Inspection of the unit showed leaves had fallen into the rain gauge at some time during the second half of the month, and were blocking the reading of rainfall levels. This blockage was cleared, however may have affected the July rainfall readings.

